

## DAM SAFETY PROGRAM

Although the Corps does not anticipate a dam failure at Center Hill, the Dam Safety Program includes coordination with state and local emergency management officials to prepare for any possible emergency situation.

The Corps has identified trigger events that, if observed at the dam, would initiate emergency procedures. These procedures include emergency draw-down of the lake, distribution of emergency warnings and possible evacuation.



Drilling for geologic information

## MORE INFORMATION:

The Corps is using news releases and public meetings to keep the public informed of important updates at Center Hill dam. Get the most up-to-date information on construction, lake levels, public meetings and project news on the Corps website at [www.lrn.usace.army.mil/CenterHill](http://www.lrn.usace.army.mil/CenterHill).

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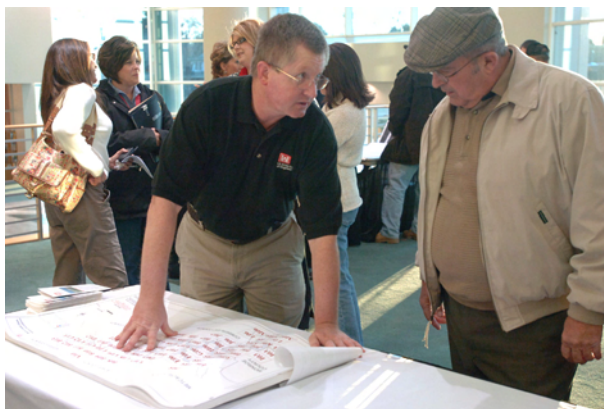
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## WHAT CAN YOU DO?

Your local emergency management office can provide you with detailed information about warning systems and emergency plans for your area. These offices and Corps offices also have inundation maps that show areas that may be flooded in the case of dam failure. You may also call our hotline at 615-548-8581 or 931-858-4366 to find out if you are in a potentially inundated area.

If you live near the Cumberland River or one of its major tributaries, you may want to:

- Purchase a weather band radio for early warning.
- Have a plan for evacuation of your family to a gathering place.
- Practice your evacuation plan.
- Secure your property by locking doors upon departure.
- Establish a contact person outside the flooded area for check-in.
- Consider purchasing flood insurance. (This is strictly a personal choice; visit [fema.gov](http://fema.gov) for more information.)



US Army Corps  
of Engineers  
Nashville District

## CENTER HILL DAM

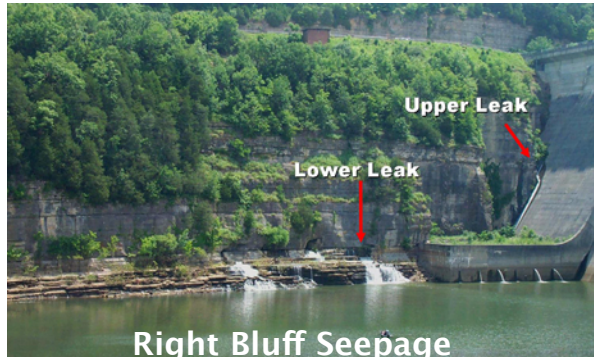


## FAST FACTS:

- Located in DeKalb County, Tennessee
- On the Caney Fork River, a major tributary of the Cumberland River
- In service since 1951
- Provides flood control, hydropower, recreation, water supply and water quality
- Impounds Center Hill Lake
- Consists of a concrete dam, an earthen embankment, an earthen saddle dam, and a power plant

## SEEPAGE PROBLEMS

Center Hill Dam was designed and built in the 1940's on a limestone foundation with cracks and fractures. Small amounts of water move under and through the dam, seeking a path of least resistance. This movement is called seepage. All dams have some seepage; however, seepage must be controlled to keep the dam safe.



The Corps has closely monitored and maintained Center Hill Dam over the years and has pumped grout into the foundation to slow and control the seepage. Grout is generally a mixture of cement and water that can be pumped under pressure into the foundation to fill up cracks in the rock and close any openings.

The foundation of Center Hill Dam is becoming weaker as the water moving through slowly washes out the clay inside the cracks and fractures. If left untreated, seepage could seriously threaten the stability of the dam, causing an emergency situation.

Although we believe there is no imminent danger to the structure, the repairs need to be completed now to ensure the long-term safety of the dam.

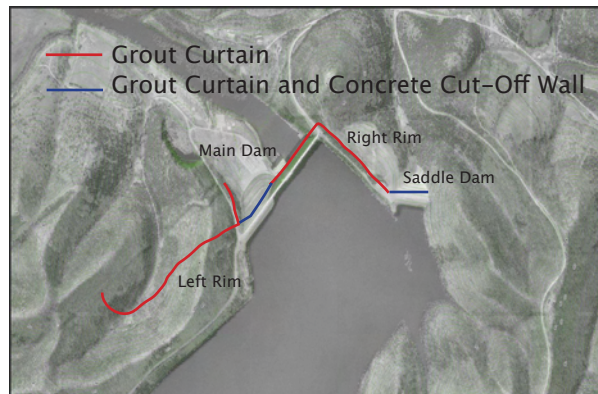
## FIXING THE DAM

The Nashville District Corps of Engineers obtained Washington approval in late 2006 to begin a major rehabilitation project at Center Hill.

The plan includes more grouting, as well as modern cut-off walls to stop the seepage. These concrete walls will be built within the main dam and saddle dam embankments, running the entire length of both. The walls will extend deep into the rock foundation to cut off seepage and stop erosion.

The total estimated cost of the rehabilitation plan is \$263 million. The project is funded through annual appropriations from Congress. The entire rehabilitation project will take six years to complete.

Work at Center Hill Dam has already begun. Drilling into the dam foundation for rock information began in November 2006. Haul roads were improved in the left rim in the summer of 2007. Initial grouting should begin in summer 2008. Cut-off wall construction will follow the grouting and is expected to begin in 2011.



Rehabilitation Plan

## LOWERING THE RISK

High lake levels at Center Hill put stress on the weakened foundation and increase seepage. The Corps has changed Center Hill Lake operations, trying to keep lake levels lower than normal to reduce the risk of failure.

Determining the appropriate levels has meant addressing the risk to those downstream, as well as the impacts to those upstream who depend on the lake. Also, environmental impacts play a role in determining lake levels. The process is complex and continual and public safety is always the Corps' highest concern.



A recent decision was made to target the lake elevation of 630 msl in the summer and no lower than 618 msl in the winter. This plan will be reevaluated as construction progresses.

The Corps has an aggressive Dam Safety Program, including 24/7 visual monitoring of the dam, increased frequency of instrumentation readings, dam safety training and emergency planning. Corps personnel are dedicated to ensuring the safety of the public while a fix is completed.